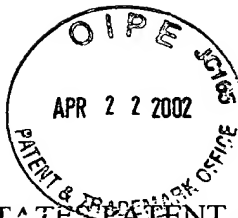


Attorney Docket No. 9013.22



04-29-02

1646 #5

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Baker, et al.
Serial No.: 09/990,832
Filed: November 16, 2001
For: TARGETING PEPTIDES

Group Art Unit: 1646

April 17, 2002

Commissioner for Patents
Washington, DC 20231

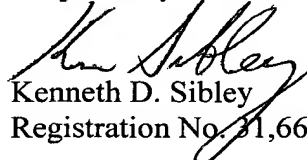
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INFORMATION DISCLOSURE STATEMENT

Sir:

Attached is a list of documents on form PTO-1449 together with a copy of each identified document. It is requested that these documents be considered by the Examiner and officially made of record in accordance with the provisions of 37 C.F.R. § 1.97 and Section 609 of the MPEP. The Commissioner is hereby authorized to charge any additional fee, which may be required, or credit any refund, to our Deposit Account No. 50-0220.

Respectfully submitted,


Kenneth D. Sibley
Registration No. 31,665



20792

PATENT TRADEMARK OFFICE

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, Washington, DC 20231, on April 17, 2002.



Vickie Diane Prior

Date of Signature: April 17, 2002

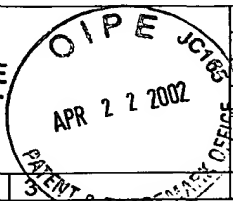
Substitute form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary) Sheet 1 of 3				<div style="border: 1px solid black; border-radius: 50%; padding: 10px; display: inline-block;"> OIPE APR 22 2002 PATENT & TRADEMARKS U.S. PATENT DOCUMENTS </div>				Complete if Known Application Number 09/990,832 Filing Date November 16, 2001 First Named Inventor Baker Group Art Unit 1646 Examiner Name Unknown Attorney Docket Number 9013.22					
Examiner Initials*		Cite No.		U.S. Patent Document		Name of Patentee or Applicant of Cited Document		Date of Publication of Cited Document MM-DD-YYYY		Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear			
				Number Kind Code (if known)									
FOREIGN PATENT DOCUMENTS													
Examiner Initials*		Cite No.		Foreign Patent Document			Name of Patentee or Applicant of Cited Document		Date of Publication of Cited Document MM-DD-YYYY		Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear		
				Office Number Kind Code (if known)									
OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS													
Examiner Initials*		Cite No.		Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published								T	
		1		Arap, et al., <i>Cancer Treatment by Targeted Drug Delivery to Tumor Vasculature in a Mouse Model</i> , <i>Science</i> , Vol. 279, pp. 377-380 (January 16, 1998)									
		2		Barry, et al., <i>Toward cell-targeting gene therapy vectors: Selection of cell-binding peptides from random peptide-presenting phage libraries</i> , <i>Nature Medicine</i> , Vol. 2, No. 3, pp. 299-305 (March 1996)									
		3		Cwirla, et al., <i>Peptides on phage: A vast library of peptides for identifying ligands</i> , <i>Proc. Natl. Acad. Sci. USA</i> , Vol. 87, pp. 6378-6382 (August 1990)									
✓		4		Douglas, et al., <i>Targeted gene delivery by tropism-modified adenoviral vectors</i> , <i>Nature Biotechnology</i> , Vol. 14, pp. 1574-1578 (November 1996)									
✓		5		Goldman, et al., <i>Targeted Gene Delivery to Kaposi's Sarcoma Cells via the Fibroblast Growth Factor Receptor</i> , <i>Cancer Research</i> , Vol. 57, pp. 1447-1451 (April 15, 1997)									
		6		Harari, et al., <i>Targeting an adenoviral gene vector to cytokine-activated vascular endothelium via E-selection</i> , <i>Gene Therapy</i> , Vol. 6, pp. 801-807 (1999)									
✓		7		Koivunen, et al., <i>Isolation of a Highly Specific Ligand for the $\alpha_5\beta_1$ Integrin from a Phage Display Library</i> , <i>Journal of Cell Biology</i> , Vol. 124, No. 3, pp. 373-380 (February 1994)									
✓		8		Krasnykh, et al., <i>Characterization of an Adenovirus Vector Containing a Heterologous Peptide Epitope in the HI Loop of the Fiber Knob</i> , <i>Journal of Virology</i> , Vol. 72, No. 3, pp. 1844-1852 (March 1998)									
✓		9		Merrick, et al., <i>Comparison of Adenovirus Gene Transfer to Vascular Endothelial Cells in Cell Culture, Organ Culture, and In Vivo Transplantation</i> , Vol. 62, No. 8, pp. 1085-1089 (October 27, 1996)									
		10		Palmer, et al., <i>Selection of antibodies to cell surface determinants on mouse thymic epithelial cells using a phage display library</i> , <i>Immunology</i> , Vol. 91, pp. 473-478 (1997)									
		11		Pasqualini, et al., <i>α_v Integrins as receptors for tumor targeting by circulating ligands</i> , <i>Nature Biotechnology</i> , Vol. 5, pp. 542-546 (June 1997)									
✓		12		Pasqualini, et al., <i>Organ targeting in vivo using phage display peptide libraries</i> , <i>Nature</i> , Vol. 380, pp. 364-367 (March 28, 1996)									
		13		Rajotte, et al., <i>Molecular Heterogeneity of the Vascular Endothelium Revealed by In Vivo Phase Display</i> , <i>J. Clin. Invest.</i> , Vol. 102, No. 2, pp. 430-437 (July 1998)									
		14		Rogers, et al., <i>Enhanced in vivo gene delivery in human ovarian cancer xenografts utilizing a tropism-modified adenovirus vector</i> , <i>Tumor Targeting</i> , Vol. 3, pp. 25-31 (1998)									
✓		15		Szardenings, et al., <i>Phage Display Selection on Whole Cells Yields a Peptide Specific for Melanocortin Receptor 1*</i> , <i>Journal of Biological Chemistry</i> , Vol. 272, No. 44, pp. 27943-27948 (October 31, 1997)									
✓		16		Tomko, et al., <i>HCAR and MCAR: The human and mouse cellular receptors for subgroup C adenoviruses and group B coxsackieviruses</i> , <i>Proc. Natl. Acad. Sci. USA</i> , Vol. 94, pp. 3352-3356 (April 1997)									
✓		17		Vigne, et al., <i>RGD Inclusion in the Hexon Monomer Provides Adenovirus Type 5-Based Vectors with a Fiber Knob-Independent Pathway for Infection</i> , <i>Journal of Virology</i> , Vol. 73, No. 6, pp. 5156-5161 (June 1999)									
		18		Watkins, et al., <i>The 'adenobody' approach to viral targeting: specific and enhanced adenoviral gene delivery</i> , <i>Gene Therapy</i> , Vol. 4, pp. 1004-1012 (1997)									
		19		Wickham, et al., <i>Adenovirus targeted to heparan-containing receptors increases its gene delivery efficiency to multiple cell types</i> , <i>Nature Biotechnology</i> , Vol. 12, pp. 1570-1573 (November 1996)									

Examiner Signature	Date Considered
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Substitute form 1449A/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	09/990,832
		Filing Date	November 16, 2001
		First Named Inventor	Baker
		Group Art Unit	1646
		Examiner Name	Unknown
Sheet 2 of 3	Attorney Docket Number		9013.22
OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	
20	20	Wickham, et al., <i>Increased In Vitro and In Vivo Gene Transfer by Adenovirus Vectors Containing Chimeric Fiber Proteins</i> , <i>Journal of Virology</i> , Vol. 71, No. 11, pp. 8221-8229 (November 1997)	
21	21	Wickham, et al., <i>Targeted Adenovirus Gene Transfer to Endothelial and Smooth Muscle Cells by Using Bispecific Antibodies</i> , <i>Journal of Virology</i> , Vol. 70, No. 10, pp. 6831-6838 (October 1996)	
	22	Wickham, et al., <i>Targeted Adenovirus-Mediated Gene Delivery to T Cells via CD3</i> , <i>Journal of Virology</i> , Vol. 71, No. 10, pp. 7663-7669 (October 1997)	
	23	Zinn, et al., <i>Imaging and tissue biodistribution of ^{99m}Tc-labeled adenovirus know (serotype 5)</i> , <i>Gene Therapy</i> , Vol. 5, pp. 798-808 (1998)	
	24	Wickham, et al., <i>Targeting of adenovirus penton base to new receptors through replacement of its RGD motif with other receptor-specific peptide motifs</i> , <i>Gene Therapy</i> , Vol. 2, pp. 750-756 (1995)	
	25	Hart, et al., <i>Lipid-Mediated Enhancement of Transfection by a Nonviral Integrin-Targeting Vector</i> , <i>Human Gene Therapy</i> , Vol. 9, pp. 575-585 (March 1, 1998)	
✓	26	Girod, et al., <i>Genetic capsid modifications allow efficient re-targeting of adeno-associated virus type 2</i> , <i>Nature Medicine</i> , Vol. 5, No. 9, pp. 1052-1056 (September 1999)	
	27	Romanczuk, et al., <i>Modification of an Adenoviral Vector with Biologically Selected Peptides: A Novel Strategy for Gene Delivery to Cells of Choice</i> , <i>Human Gene Therapy</i> , Vol. 10, pp. 2615-2626 (November 1, 1999)	
✓	28	Dmitriev, et al., <i>An Adenovirus Vector with Genetically Modified Fibers Demonstrates Expanded Tropism via Utilization of a Coxsackievirus and Adenovirus Receptor-Independent Cell Entry Mechanism</i> , <i>Journal of Virology</i> , Vol. 72, No. 12, pp. 9706-9713 (December 1998)	
✓	29	Bartlett, et al., <i>Targeted adeno-associated virus vector transduction of nonpermissive cells mediated by a bispecific F(ab')₂ antibody</i> , <i>Nature Biotechnology</i> , Vol. 17, pp. 181-186 (February 1999)	
✓	30	Hall, et al., <i>Targeting Retroviral Vectors to Vascular Lesions by Genetic Engineering of the MoMLV gp70 Envelope Protein</i> , <i>Human Gene Therapy</i> , Vol. 8, pp. 2183-2192 (December 10, 1997)	
	31	Kasahara, et al., <i>Tissue-Specific Targeting of Retroviral Vectors Through Ligand-Receptor Interactions</i> , <i>Science</i> , Vol. 266, pp. 1373-1376 (November 25, 1994)	
✓	32	Valsecia-Wittmann, et al., <i>Modifications in the Binding Domain of Avian Retrovirus Envelope Protein To Redirect the Host Range of Retroviral Vectors</i> , <i>Journal of Virology</i> , Vol. 68, No. 7, pp. 4609-4619 (July 1994)	
	33	Hart, et al., <i>Integrin-mediated transfection with peptides containing arginine-glycine-aspartic acid domains</i> , <i>Gene Therapy</i> , Vol. 4, pp. 1225-1230 (1997)	
✓	34	Crompton, et al., <i>Expression of a foreign epitope on the surface of the adenovirus hexon</i> , <i>Journal of General Virology</i> , Vol. 75, pp. 133-139 (1994)	
	35	Eavarone, et al., <i>Targeted drug delivery to C6 glioma by transferring-coupled liposomes</i> , <i>Student Research Award in the Undergraduate Degree Category</i> , World Biomaterials Congress 2000, Kamuela, HI (May 15-20, 2000)	
	36	Tsunoda, et al., <i>Specific binding of TES-23 antibody to tumour vascular endothelium in mice, rats and human cancer tissue: a novel drug carrier for cancer targeting therapy</i> , <i>British Journal of Cancer</i> , Vol. 81, No. 7, pp. 1155-1161 (1999)	
	37	Nicklin, et al., <i>Selective Targeting of Gene Transfer to Vascular Endothelial Cells by Use of Peptides Isolated by Phage Display</i> , <i>Circulation</i> , pp. 231-237 (2000)	
✓	38	Rajotte, et al., <i>Membrane Dipeptidase is the Receptor for a Lung-targeting Peptide Identified by in Vivo Phage Display</i> , <i>Journal of Biological Chemistry</i> , Vol. 274, No. 17, pp. 11593-11598 (April 23, 1999)	
✓	39	Nicklin, et al., <i>Efficient and Selective AAV2-Mediated Gene Transfer Directed to Human Vascular Endothelial Cells</i> , <i>Molecular Therapy</i> , Vol. 4, No. 2, pp. 174-181 (August 2001)	
✓	40	Nicklin, et al., <i>Ablating Adenovirus Type 5 Fiber-CAR Binding and HI Loop Insertion of the SIGYPLP Peptide Generate an Endothelial Cell-Selective Adenovirus</i> , <i>Molecular Therapy</i> , Vol. 4, No. 6, pp. 534-542 (December 2001)	
✓	41	Bergelson, et al., <i>Isolation of a Common Receptor for Coxsackie B Viruses and Adenoviruses 2 and 5</i> , <i>Science</i> , Vol. 275, pp. 1320-1323 (February 28, 1997)	
	42	Abstract, Parker, et al., <i>Enhanced gene transfer activity of poly(L-lysine)/DNA complexes targeted using an oligopeptide identified by phage panning</i> , <i>Stockholm 2000</i>	
	43	Abstract, Parker, et al., <i>Retargeting Gene Therapy Vectors Using Small Oligopeptides Identified by Phage Display Technology</i> , <i>American Society of Gene Therapy</i> , Vol. 3, No. 5 (May 2001)	
	44	Abstract, Nicklin, et al., <i>Enhanced Gene Transfer to Endothelial Cells By Genetic Incorporation of The Targeting Peptide SIGYPLP Into the HI Loop of the Adenovirus Type 5 Fiber</i> , <i>Annual Meeting of the American Society of Gene Therapy</i> , Seattle (May 30-June 3, 2001)	
Examiner Signature		Date Considered	

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		Filing Date	November 16, 2001	
		First Named Inventor	Baker	
		Group Art Unit	1646	
		Examiner Name	Unknown	
Sheet	3	of	Attorney Docket Number	9013.22
OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS				
	45	Abstract, Nicklin, et al., <u>Development of an Endothelial Cell-Selective Adenoviral Vector by Genetic Modification of the Fiber Gene: Implications for Gene Therapy in Vascular Disease</u> , British Hypertension Society Annual Scientific Meeting, Oxford (September 10-12, 2001)	RECEIVED APR 24 2002 TECH CENTER 1600/2900	
✓	46	Abstract, Work, et al., <u>Use of Phage display to isolate peptides for development of efficient and selective gene delivery to vascular smooth muscle and endothelial cells in vein grafts</u> , ASGT Seattle 2001 (2001)		
✓	47	Abstract, White, et al., <u>Targeting Adenovirus to the Vascular Endothelium Using Peptide Ligands Isolated by Phage Display</u>		
✓	48	Abstract, White, et al., <u>Isolation of Peptides that Direct Adenoviral Infection to Human Vascular Endothelium</u>		
✓	49	Abstract, White, et al., <u>Isolation of Peptides that Direct Binding to Human Vascular Endothelium</u>		
✓	50	Abstract, White, et al., <u>Targeting Adenoviral Vectors to Human Vascular Endothelium using Small Peptides and Cell-Specific Promoters</u> , 2 nd Imperial College School of Medicine and Kennedy Institute of Rheumatology Symposium, Vascular Endothelium: Role in Disease Pathogenesis and as a Therapeutic Target, London (November 22, 1999)		
	51	Abstract, <u>Vascular endothelium: Role in disease pathogenesis and as a therapeutic target</u> , 2 nd Imperial College School of Medicine & Kennedy Institute of Rheumatology Symposium (November 22, 1999)		
✓	52	Abstract, Nicklin, et al., <u>Development of an Endothelial Cell-Selective Adenoviral Vector by Genetic Modification of the Fiber Gene: Implications of Gene Therapy in Vascular Disease</u> , British Hypertension Society Annual Scientific Meeting, Oxford (September 10-12, 2001)		
✓	53	Abstract, Nicklin, et al., <u>Development of Efficient and Selective Vascular Gene Therapy Vectors</u> , British Cardiac Society Annual Meeting, Harrogate (May 13-16, 2002)		
✓	54	Abstract, Nicklin, et al., <u>Targeted Adenovirus-Mediated Gene Transfer to Human Vascular Endothelium</u> , Autumn Meeting of the Scottish Society of Experimental Medicine, Dundee (November 18, 1999)		
✓	55	Abstract, Nicklin, et al., <u>Enhanced Gene Transfer to Endothelial Cells By Genetic Incorporation of the Targeting Peptide SIGYPLP Into the HI Loop of the Adenovirus Type 5 Fiber</u> , Annual Meeting of the American Society of Gene Therapy, Seattle (May 30-June 3, 2001)		
	56	Abstract, Nicklin, et al., <u>Use of Phage Display to Isolate Peptides for Targeted Gene Transfer to Vascular Endothelial Cells</u> , Scottish Cardiovascular Forum, Glasgow (January 27, 2001)		
✓	57	Abstract, Nicklin, et al., <u>Targeting Gene Transfer Selectively to Vascular Endothelial Cells Using Peptides Isolated by Phage Display: Implications for Development of Gene Therapy in Hypertension</u> , Council for High Blood Pressure Research 54 th Annual Fall Conference and Scientific Sessions		
✓	58	Abstract, White, et al., <u>Targeting Adenovirus to the Vascular Endothelium using Peptide Ligands Isolated by Phage Display</u> , Geneva 2000. J. Sub-Microscopic Cytology and Pathology		

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